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SEQUENCE LISTING

<110> MOECKEL, Bettina
BATHE, Brigitte
HERMANN, Thomas
PFEFFERLE, Walter
BINDER, Michael

<120> Nucleotide sequences coding for the rpoB gene

<130> 219774US0XCIP

<140> new application

<141> 2002-02-19

<150> DE 10107229.5

<151> 2001-02-16

<150> US 09/887052

<151> 2001-06-25

<160> 12

<170> PatentIn version 3.1

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Ala Glu Ala Pro Phe Val Gly Thr Gly Met Glu Gln Arg Ala Ala Tyr
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Asp Ala Gly Asp Leu Val Ile Thr Pro Val Ala Gly Val Val Glu Asn
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Val Ser Ala Asp Phe Ile Thr Ile Met Ala Asp Asp Gly Lys Arg Glu
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Thr Tyr Leu Leu Arg Lys Phe Gln Arg Thr Asn Gln Gly Thr Ser Tyr
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Asn Gln Lys Pro Leu Val Asn Leu Gly Glu Arg Val Glu Ala Gly Gln
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Val Ile Ala Asp Gly Pro Gly Thr Phe Asn Gly Glu Met Ser Leu Gly

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Ser Ile His Ile 740	Glu Glu His Glu Ile Asp 745	Ala Arg Asp Thr Lys Leu 750
Gly Ala Glu Glu Ile 755	Thr Arg Asp Ile Pro Asn Val 760	Ser Glu Glu Val 765
Leu Lys Asp Leu Asp Asp 770	Arg Gly Ile Val Arg Ile 775 780	Gly Ala Asp Val
Arg Asp Gly Asp Ile 785	Leu Val Gly Lys Val Thr 790 795	Pro Lys Gly Glu Thr 800
Glu Leu Thr Pro 805	Glu Glu Arg Leu Leu Arg 810	Ala Ile Phe Gly Glu Lys 815
Ala Arg Glu Val 820	Arg Asp Thr Ser Met Lys 825	Val Pro His Gly Glu Thr 830
Gly Lys Val Ile 835	Gly Val Arg His Phe Ser 840	Arg Glu Asp Asp Asp Asp 845
Leu Ala Pro Gly Val 850	Asn Glu Met Ile Arg Ile 855 860	Tyr Val Ala Gln Lys
Arg Lys Ile Gln Asp 865	Gly Asp Lys Leu Ala Gly 870 875	Arg His Gly Asn Lys 880
Gly Val Val Gly 885	Lys Ile Leu Pro Gln Glu 890	Asp Met Pro Phe Leu Pro 895
Asp Gly Thr Pro 900	Val Asp Ile Ile Leu Asn 905	Thr His Gly Val Pro Arg 910
Arg Met Asn Ile 915	Gly Gln Val Leu Glu Thr 920	His Leu Gly Trp Leu Ala 925

Ser Ala Gly Trp Ser Val Asp Pro Glu Asp Pro Glu Asn Ala Glu Leu
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Val Lys Thr Leu Pro Ala Asp Leu Leu Glu Val Pro Ala Gly Ser Leu
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Thr Ala Thr Pro Val Phe Asp Gly Ala Ser Asn Glu Glu Leu Ala Gly
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Leu Leu Ala Asn Ser Arg Pro Asn Arg Asp Gly Asp Val Met Val Asn
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Ala Asp Gly Lys Ala Thr Leu Ile Asp Gly Arg Ser Gly Glu Pro Tyr
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Pro Tyr Pro Val Ser Ile Gly Tyr Met Tyr Met Leu Lys Leu His
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His Leu Val Asp Glu Lys Ile His Ala Arg Ser Thr Gly Pro Tyr
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Ser Met Ile Thr Gln Gln Pro Leu Gly Gly Lys Ala Gln Phe Gly
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Val Leu Glu Gly Leu	
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Ile Leu Ala Val Ser Arg Gln Thr Lys Ser Val Val Asp Ile Pro Gly	
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Ala Pro Gln Arg Tyr Ser Phe Ala Lys Val Ser Ala Pro Ile Glu Val	
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Pro Gly Leu Leu Asp Leu Gln Leu Asp Ser Tyr Ser Trp Leu Ile Gly	
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Thr Pro Glu Trp Arg Ala Arg Gln Lys Glu Glu Phe Gly Glu Gly Ala	
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Gln Asp Tyr Ser Gly Asn Met Ser Leu Ser Leu Ser Glu Pro Arg Phe	
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Lys Ser Thr Glu Arg Pro Leu His Ala Val Lys Val Ile Pro Phe Arg	
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Ala	Leu	Leu	Glu	Ile	Tyr	Arg	Lys	Gln	Arg	Pro	Gly	Glu	Gln	Pro	Thr		
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cgc	gac	ctt	gcg	cag	tcc	ctc	ctg	gac	aac	agc	ttc	ttc	cgt	gca	aag	1580	
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35 40 45

Ser Trp Leu Ile Gly Thr Pro Glu Trp Arg Ala Arg Gln Lys Glu Glu
50 55 60

Phe Gly Glu Gly Ala Arg Val Thr Ser Gly Leu Glu Asn Ile Leu Glu
65 70 75 80

Glu Leu Ser Pro Ile Gln Asp Tyr Ser Gly Asn Met Ser Leu Ser Leu
85 90 95

Ser Glu Pro Arg Phe Glu Asp Val Lys Asn Thr Ile Asp Glu Ala Lys
100 105 110

Glu Lys Asp Ile Asn Tyr Ala Ala Pro Leu Tyr Val Thr Ala Glu Phe
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Val Asn Asn Thr Thr Gly Glu Ile Lys Ser Gln Thr Val Phe Ile Gly
130 135 140

Asp Phe Pro Met Met Thr Asp Lys Gly Thr Phe Ile Ile Asn Gly Thr
145 150 155 160

Glu Arg Val Val Val Ser Gln Leu Val Arg Ser Pro Gly Val Tyr Phe
165 170 175

Asp Gln Thr Ile Asp Lys Ser Thr Glu Arg Pro Leu His Ala Val Lys
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Val Ile Pro Phe Arg Gly Ala Trp Leu Glu Phe Asp Val Asp Lys Arg
195 200 205

Asp Ser Val Gly Val Arg Ile Asp Arg Lys Arg Arg Gln Pro Val Thr
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Val Leu Leu Lys Ala Leu Gly Trp Thr Thr Glu Gln Ile Thr Glu Arg

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Phe Gly Phe Ser Glu Ile Met Met Ser Thr Leu Glu Ser Asp Gly Val						
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Ala Asn Thr Asp Glu Ala Leu Leu Glu Ile Tyr Arg Lys Gln Arg Pro						
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Gly Glu Gln Pro Thr Arg Asp Leu Ala Gln Ser Leu Leu Asp Asn Ser						
		275		280		285
Phe Phe Arg Ala Lys Arg Tyr Asp Leu Ala Arg Val Gly Arg Tyr Lys						
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Ile Asn Arg Lys Leu Gly Leu Gly Gly Asp His Asp Gly Leu Met Thr						
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Leu Thr Glu Glu Asp Ile Ala Thr Thr Ile Glu Tyr Leu Val Arg Leu						
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His Ala Gly Glu Arg Val Met Thr Ser Pro Asn Gly Glu Glu Ile Pro						
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Val Gly Glu Leu Ile Gln Asn Gln Val Arg Val Gly Leu Ser Arg Met						
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Glu Arg Val Val Arg Glu Arg Met Thr Thr Gln Asp Ala Glu Ser Ile						
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Thr Pro Thr Ser Leu Ile Asn Val Arg Pro Val Ser Ala Ala Ile Arg						
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Glu Phe Phe Gly Thr Ser Gln Leu Ser Gln Phe Met Val Gln Asn Asn						
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Ser Leu Ser Gly Leu Thr His Lys Arg Arg Leu Ser Ala Leu Gly Pro						
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Gly Gly Leu Ser Arg Glu Arg Ala Gly Ile Glu Val Arg Asp Val His						
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Pro Ser His Tyr Gly Arg Met Cys Pro Ile Glu Thr Pro Glu Gly Pro
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Asn Ile Gly Leu Ile Gly Ser Leu Ala Ser Tyr Ala Arg Val Asn Pro
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Phe Gly Phe Ile Glu Thr Pro Tyr Arg Arg Ile Ile Asp Gly Lys Leu
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Thr Asp Gln Ile Asp Tyr Leu Thr Ala Asp Glu Glu Asp Arg Phe Val
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Val Ala Gln Ala Asn Thr His Tyr Asp Glu Glu Gly Asn Ile Thr Asp
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Glu Thr Val Thr Val Arg Leu Lys Asp Gly Asp Ile Ala Met Val Gly
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Arg Asn Ala Val Asp Tyr Met Asp Val Ser Pro Arg Gln Met Val Ser
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Val Gly Thr Ala Met Ile Pro Phe Leu Glu His Asp Asp Ala Asn Arg
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610 615 620

Asp Ala Gly Asp Leu Val Ile Thr Pro Val Ala Gly Val Val Glu Asn
625 630 635 640

Val Ser Ala Asp Phe Ile Thr Ile Met Ala Asp Asp Gly Lys Arg Glu
645 650 655

Thr Tyr Leu Leu Arg Lys Phe Gln Arg Thr Asn Gln Gly Thr Ser Tyr
660 665 670

Asn Gln Lys Pro Leu Val Asn Leu Gly Glu Arg Val Glu Ala Gly Gln
675 680 685

Val Ile Ala Asp Gly Pro Gly Thr Phe Asn Gly Glu Met Ser Leu Gly
 690 695 700

Arg Asn Leu Leu Val Ala Phe Met Pro Trp Glu Gly His Asn Tyr Glu
 705 710 715 720

Asp Ala Ile Ile Leu Asn Gln Asn Ile Val Glu Gln Asp Ile Leu Thr
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Ser Ile His Ile Glu Glu His Glu Ile Asp Ala Arg Asp Thr Lys Leu
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Gly Ala Glu Glu Ile Thr Arg Asp Ile Pro Asn Val Ser Glu Glu Val
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Leu Lys Asp Leu Asp Asp Arg Gly Ile Val Arg Ile Gly Ala Asp Val
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Arg Asp Gly Asp Ile Leu Val Gly Lys Val Thr Pro Lys Gly Glu Thr
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Ala Arg Glu Val Arg Asp Thr Ser Met Lys Val Pro His Gly Glu Thr
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Gly Lys Val Ile Gly Val Arg His Phe Ser Arg Glu Asp Asp Asp Asp
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Leu Ala Pro Gly Val Asn Glu Met Ile Arg Ile Tyr Val Ala Gln Lys
 850 855 860

Arg Lys Ile Gln Asp Gly Asp Lys Leu Ala Gly Arg His Gly Asn Lys
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Gly Val Val Gly Lys Ile Leu Pro Gln Glu Asp Met Pro Phe Leu Pro
 885 890 895

Asp Gly Thr Pro Val Asp Ile Ile Leu Asn Thr His Gly Val Pro Arg
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Arg Met Asn Ile Gly Gln Val Leu Glu Thr His Leu Gly Trp Leu Ala
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Ser Ala Gly Trp Ser Val Asp Pro Glu Asp Pro Glu Asn Ala Glu Leu
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Val Lys Thr Leu Pro Ala Asp Leu Leu Glu Val Pro Ala Gly Ser Leu
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Thr Ala Thr Pro Val Phe Asp Gly Ala Ser Asn Glu Glu Leu Ala Gly
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Ala Asp Gly Lys Ala Thr Leu Ile Asp Gly Arg Ser Gly Glu Pro Tyr
 995 1000 1005

Pro Tyr Pro Val Ser Ile Gly Tyr Met Tyr Met Leu Lys Leu His
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His Leu Val Asp Glu Lys Ile His Ala Arg Ser Thr Gly Pro Tyr
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Ser Met Ile Thr Gln Gln Pro Leu Gly Gly Lys Ala Gln Phe Gly
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Gly Gln Arg Phe Gly Glu Met Glu Val Trp Ala Met Gln Ala Tyr
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Asp Val Val Gly Arg Val Lys Val Tyr Glu Ala Ile Val Lys Gly
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Glu Asn Ile Pro Asp Pro Gly Ile Pro Glu Ser Phe Lys Val Leu
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Leu Lys Glu Leu Gln Ser Leu Cys Leu Asn Val Glu Val Leu Ser
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Ala Asp Gly Thr Pro Met Glu Leu Ala Gly Asp Asp Asp Asp Phe

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Glu Arg Ala Gly Ile Glu Val Arg Asp Val His Pro Ser His Tyr Gly	
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atc acc atc atg gct gat gac ggc aag cgc gaa acc tac ctg ctg cgt Ile Thr Ile Met Ala Asp Asp Gly Lys Arg Glu Thr Tyr Leu Leu Arg 650 655 660	2684
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Ser Trp Leu Ile Gly Thr Pro Glu Trp Arg Ala Arg Gln Lys Glu Glu
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Phe Gly Glu Gly Ala Arg Val Thr Ser Gly Leu Glu Asn Ile Leu Glu
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Glu Leu Ser Pro Ile Gln Asp Tyr Ser Gly Asn Met Ser Leu Ser Leu
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Ser Glu Pro Arg Phe Glu Asp Val Lys Asn Thr Ile Asp Glu Ala Lys
100 105 110

Glu Lys Asp Ile Asn Tyr Ala Ala Pro Leu Tyr Val Thr Ala Glu Phe
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Val Asn Asn Thr Thr Gly Glu Ile Lys Ser Gln Thr Val Phe Ile Gly
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Asp Phe Pro Met Met Thr Asp Lys Gly Thr Phe Ile Ile Asn Gly Thr
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Glu Arg Val Val Val Ser Gln Leu Val Arg Ser Pro Gly Val Tyr Phe
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Asp Gln Thr Ile Asp Lys Ser Thr Glu Arg Pro Leu His Ala Val Lys
180 185 190

Val Ile Pro Ser Arg Gly Ala Trp Leu Glu Phe Asp Val Asp Lys Arg
195 200 205

Asp Ser Val Gly Val Arg Ile Asp Arg Lys Arg Arg Gln Pro Val Thr
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Val Leu Leu Lys Ala Leu Gly Trp Thr Thr Glu Gln Ile Thr Glu Arg
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Phe Gly Phe Ser Glu Ile Met Met Ser Thr Leu Glu Ser Asp Gly Val
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Ala Asn Thr Asp Glu Ala Leu Leu Glu Ile Tyr Arg Lys Gln Arg Pro
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Gly Glu Gln Pro Thr Arg Asp Leu Ala Gln Ser Leu Leu Asp Asn Ser
 275 280 285

Phe Phe Arg Ala Lys Arg Tyr Asp Leu Ala Arg Val Gly Arg Tyr Lys
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Ile Asn Arg Lys Leu Gly Leu Gly Gly Asp His Asp Gly Leu Met Thr
 305 310 315 320

Leu Thr Glu Glu Asp Ile Ala Thr Thr Ile Glu Tyr Leu Val Arg Leu
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His Ala Gly Glu Arg Val Met Thr Ser Pro Asn Gly Glu Glu Ile Pro
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Val Glu Thr Asp Asp Ile Asp His Phe Gly Asn Arg Arg Leu Arg Thr
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Val Gly Glu Leu Ile Gln Asn Gln Val Arg Val Gly Leu Ser Arg Met
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Glu Arg Val Val Arg Glu Arg Met Thr Thr Gln Asp Ala Glu Ser Ile
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Thr Pro Thr Ser Leu Ile Asn Val Arg Pro Val Ser Ala Ala Ile Arg
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Gly Gly Leu Ser Arg Glu Arg Ala Gly Ile Glu Val Arg Asp Val His
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Pro Ser His Tyr Gly Arg Met Cys Pro Ile Glu Thr Pro Glu Gly Pro
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Asn Ile Gly Leu Ile Gly Ser Leu Ala Ser Tyr Ala Arg Val Asn Pro
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Phe Gly Phe Ile Glu Thr Pro Tyr Arg Arg Ile Ile Asp Gly Lys Leu
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Glu Thr Val Thr Val Arg Leu Lys Asp Gly Asp Ile Ala Met Val Gly
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Arg Asn Ala Val Asp Tyr Met Asp Val Ser Pro Arg Gln Met Val Ser
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Val Gly Thr Ala Met Ile Pro Phe Leu Glu His Asp Asp Ala Asn Arg
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Ala Leu Met Gly Ala Asn Met Gln Lys Gln Ala Val Pro Leu Ile Arg
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Ala Glu Ala Pro Phe Val Gly Thr Gly Met Glu Gln Arg Ala Ala Tyr
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Asp Ala Gly Asp Leu Val Ile Thr Pro Val Ala Gly Val Val Glu Asn
 625 630 635 640

Val Ser Ala Asp Phe Ile Thr Ile Met Ala Asp Asp Gly Lys Arg Glu
 645 650 655

Thr Tyr Leu Leu Arg Lys Phe Gln Arg Thr Asn Gln Gly Thr Ser Tyr
 660 665 670

Asn Gln Lys Pro Leu Val Asn Leu Gly Glu Arg Val Glu Ala Gly Gln
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Val Ile Ala Asp Gly Pro Gly Thr Phe Asn Gly Glu Met Ser Leu Gly
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Arg Asn Leu Leu Val Ala Phe Met Pro Trp Glu Gly His Asn Tyr Glu
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Asp Ala Ile Ile Leu Asn Gln Asn Ile Val Glu Gln Asp Ile Leu Thr

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Gly Ala Glu Glu Ile Thr Arg Asp Ile Pro Asn Val Ser Glu Glu Val 755 760 765		
Leu Lys Asp Leu Asp Asp Arg Gly Ile Val Arg Ile Gly Ala Asp Val 770 775 780		
Arg Asp Gly Asp Ile Leu Val Gly Lys Val Thr Pro Lys Gly Glu Thr 785 790 795 800		
Glu Leu Thr Pro Glu Glu Arg Leu Leu Arg Ala Ile Phe Gly Glu Lys 805 810 815		
Ala Arg Glu Val Arg Asp Thr Ser Met Lys Val Pro His Gly Glu Thr 820 825 830		
Gly Lys Val Ile Gly Val Arg His Phe Ser Arg Glu Asp Asp Asp Asp 835 840 845		
Leu Ala Pro Gly Val Asn Glu Met Ile Arg Ile Tyr Val Ala Gln Lys 850 855 860		
Arg Lys Ile Gln Asp Gly Asp Lys Leu Ala Gly Arg His Gly Asn Lys 865 870 875 880		
Gly Val Val Gly Lys Ile Leu Pro Gln Glu Asp Met Pro Phe Leu Pro 885 890 895		
Asp Gly Thr Pro Val Asp Ile Ile Leu Asn Thr His Gly Val Pro Arg 900 905 910		
Arg Met Asn Ile Gly Gln Val Leu Glu Thr His Leu Gly Trp Leu Ala 915 920 925		
Ser Ala Gly Trp Ser Val Asp Pro Glu Asp Pro Glu Asn Ala Glu Leu 930 935 940		
Val Lys Thr Leu Pro Ala Asp Leu Leu Glu Val Pro Ala Gly Ser Leu 945 950 955 960		

Thr Ala Thr Pro Val Phe Asp Gly Ala Ser Asn Glu Glu Leu Ala Gly
 965 970 975

Leu Leu Ala Asn Ser Arg Pro Asn Arg Asp Gly Asp Val Met Val Asn
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Ala Asp Gly Lys Ala Thr Leu Ile Asp Gly Arg Ser Gly Glu Pro Tyr
 995 1000 1005

Pro Tyr Pro Val Ser Ile Gly Tyr Met Tyr Met Leu Lys Leu His
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His Leu Val Asp Glu Lys Ile His Ala Arg Ser Thr Gly Pro Tyr
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Ser Met Ile Thr Gln Gln Pro Leu Gly Gly Lys Ala Gln Phe Gly
 1040 1045 1050

Gly Gln Arg Phe Gly Glu Met Glu Val Trp Ala Met Gln Ala Tyr
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Gly Ala Ala Tyr Thr Leu Gln Glu Leu Leu Thr Ile Lys Ser Asp
 1070 1075 1080

Asp Val Val Gly Arg Val Lys Val Tyr Glu Ala Ile Val Lys Gly
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Glu Asn Ile Pro Asp Pro Gly Ile Pro Glu Ser Phe Lys Val Leu
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Leu Lys Glu Leu Gln Ser Leu Cys Leu Asn Val Glu Val Leu Ser
 1115 1120 1125

Ala Asp Gly Thr Pro Met Glu Leu Ala Gly Asp Asp Asp Asp Phe
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Asp Gln Ala Gly Ala Ser Leu Gly Ile Asn Leu Ser Arg Asp Glu
 1145 1150 1155

Arg Ser Asp Ala Asp Thr Ala
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 Lys Asp Arg Lys Gln Ala Arg Ser Pro Leu Arg Arg Glu Glu Gly Ile
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 Ile Lys Asn Ala
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Val Cys Thr Arg Val Tyr Thr Thr Thr Pro Lys Lys Pro Asn Ser Ala
 35 40 45

Leu Arg Lys Val Ala Arg Val Arg Leu Thr Ser Gly Ile Glu Val Ser
 50 55 60

Ala Tyr Ile Pro Gly Glu Gly His Asn Leu Gln Glu His Ser Met Val
 65 70 75 80

Leu Val Arg Gly Gly Arg Val Lys Asp Leu Pro Gly Val Arg Tyr Lys
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Ile Val Arg Gly Ala Leu Asp Thr Gln Gly Val Lys Asp Arg Lys Gln
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